0. EXECUTIVE SUMMARY

Table of Contents

0.1. GENERAL CONSIDERATIONS

0.1.1. The Nature of the Project and Program Needs

This IAPD describes and seeks approval for a project to modernize the systems that provide automated data processing support for the Iowa and North Dakota Supplemental Nutrition Programs for Women, Infants, and Children (WIC), and has been developed in accordance with and is fully responsive to, the guidelines of the FNS Handbook 901 (April 1992).

This project is somewhat unusual for a WIC system modernization project in that we believe it is the first time such a project has been attempted jointly by two states. Because Iowa has substantially more state WIC staff that can be devoted to the project, and because of their larger caseload, the new system will be largely developed in that state and will implemented there first. However, North Dakota will have input into all design and other decisions that are made over the course of the project.

The project is unusual in another respect as well. The implementation RFP will allow firms to bid on one or both of two options for the system architecture – either transfer of an existing distributed system or development of a Web-enabled system. The reason for this is that the two states' information technology (IT) departments would much prefer that the system be designed and implemented with the latter architecture, which is more in accord with their standards for IT system development. However, there is no existing Web-enabled WIC system which is a candidate for transfer to the two states. Thus, there is some uncertainty regarding what the development cost for such a system would be.

The states' strategy will be to solicit bids for both options and then choose based in part on the cost proposals in each response to the RFP.   This approach provides an opportunity for the states to acquire a system that could become the prototype for the next generation of WIC systems across the country. At the same time, it minimizes the risk of not being able to more forward in the event development of a Web-enabled system is cost prohibitive, by providing an option for transferring a current generation system.

0.1.1.1. Program Needs Addressed by the Project

Iowa

Current Iowa automated support of their WIC program is deficient in a number of regards, specifically:

- The current system is lacking a significant number of the requirements delineated in the FNS WIC Model Functional Requirements Document (FRD).

- Iowa WIC does not have a fully integrated vendor management component, which prevents the Program from being able to provide for Federally required vendor monitoring procedures.

- The current system does not provide for the majority of food instruments (FIs) to be printed on site.

- It does not track FI issuance adequately.

- The current system does not adequately track potential overcharging or undercharging by vendors.

- The current system does not allow for timely transfer of participants from one Local Agency to another.

- The current system contains two separate databases – one at the local and one at the state level – and the two databases are not always in sync.

- It promotes duplicate recording of data – first on paper forms, which are then transcribed into the computer.

- The current system does not provide on-screen assistance for the entry of certification codes (drop down boxes).

- It does not provide any automated assignment of system variables such as food packages or risk factors.

- It does not provide for automated growth charts.

North Dakota

North Dakota's automated data processing support of its WIC Program is minimal, consisting of a data entry module in the local service delivery sites that allows clinic staff to record participant and FI issue information. Summary data is consolidated at the state level by the use of diskettes containing clinic data which are mailed to the State WIC Office monthly and stored on the WIC Director's PC, enabling the WIC Director to create participation reports. There is no vendor information captured by this system, nor is there any automated issue of FIs.

The North Dakota WIC data processing system incorporates very little of the functionality defined by the National FRD.

0.1.2. Functions to Be Automated and the Level of Automation

The new WIC system defined by this IAPD will automate a number of functions at both the local service delivery site and state agency level. The functionality will be the same regardless of which system architecture is chosen, specifically:

Local Service Delivery Site

- Pre-application screening,

- Appointment scheduling (recording participant appointments made, kept, and missed, following up missed appointments, and managing clinic schedules),

- Participant intake and application (recording participant characteristics and certification, referral, and voter registration data),

- Income eligibility determination,

- Documentation of identity, physical presence, and residence.

- Nutrition risk, priority, and eligibility determination (automated eligibility determination with user override),

- Certification, re-certification, termination, and reinstatement,

- Food prescription assignment (calculating, recording, and controlling food prescriptions issued for participants),

- Food package tailoring,

- FI issue in the clinics,

- Identifying and referring participants for other local, state, or Federal health and social assistance for which they are eligible,

- In-state transfer of participant records from other local agencies and clinics,

- Procedures for preventing and resolving potential dual participation,

- Pre-defined and *ad hoc* analysis and reporting,

- Transferring participant and certification data to the state agency level system, and

- Transferring FI issue data to the state agency level system.

<u>State Agency</u>

- Financial management (FI reconciliation, budgeting, funds allocation and use, Federally required reporting, food obligations and outlays, *etc.*),

- Vendor management (peer grouping, education, authorization, monitoring, compliance buys, penalties, replacement FIs, *etc.*),

- High risk vendor analysis,

- Caseload management (participation/applicant projections, waitlist management, caseload assignment, "what if" analysis, *etc.*),

- Dual participation analysis,

- In-state transfers (transferring participant records from the losing to the gaining agency),

- Food package creation and distribution,

- Transfer of FI issue and redemption/rejection data to and from the financial intermediary,

- Maintaining and electronically transferring data required for the USDA Minimum Data Set and the CDC surveillance programs,

- Additional pre-defined reports (*e.g.,* participant, nutrition education, vendor, FI usage, percent of eligible applicants served),

- *Ad hoc* query capability, and

- Accepting data from and making data available to the local service delivery subsystem.

Ultimately, the primary objective of the new WIC information system is to enable both states' WIC programs to provide high quality nutrition services to the maximum number of eligible WIC participants in a timely and efficient manner.

0.1.3. Long Term Automation Plans

0.1.3.1. Iowa

The agency responsible for the new WIC system from a technical perspective in Iowa is the Iowa Department of Public Health Bureau of Information Management. The direction that this organization has set for IT systems for the Department of Public Health is that new applications be built as Web-enabled systems using Microsoft products as the operating systems, server (database, application, and Web), and development software (*e.g.,* Visual Basic, SQL Server). This approach is consistent with government wide initiatives in Iowa. If the states are successful in acquiring a system that is Web-enabled, it will integrate into the long term plans of the department and the state.

0.1.3.2. North Dakota

North Dakota state government also has ambitious plans for migrating the delivery of public services to the Internet as much as possible. While the use and management of a Web-enabled WIC system is somewhat different than other e-government initiatives in that the system will not allow citizens to directly access services through the Web, it is similar in the sense that the same technologies and infrastructure will be used. Over time, this will make operating costs less expensive for the WIC Program.

0.1.4. Involvement of the States' Top Management

High level oversight of this project from both states will be exercised by individual and joint project steering committees composed of senior executives from the states' WIC programs and health departments. The steering committee will have ultimate authority with respect to all project decisions. The Iowa and North Dakota joint steering committee will meet once per month, usually through video teleconferencing, throughout most of the project. Video teleconferencing has been used successfully in the development of this IAPD.

Iowa will be the lead state in the development, and most project development activities will take place in that state. Therefore, the Iowa steering committee will have the most contact with the project team, the QA contractor, and the System Development and Implementation (SD&I) contractor. All written/electronic communications from the project management team will of course go to the steering committee in both states. Video teleconferencing will be used to resolve any differences of opinion that might arise between the two bodies regarding project activities.

0.1.4.1. Iowa

The Iowa steering committee will consist of the following members

  Jane Colacecchi – IDPH Deputy Director for Operations

  Julie McMahon Director, Division of Family and Community Health

  Emily Roepsch - Project Manager, Bureau of Information Management

  Judy Solberg – Chief, Bureau of Nutrition

  Greg Fay - Chief, Bureau of Information Management

  Jeff Hoyem – Database Administrator, Bureau of Information Management

  Jeff Overson – System Architect, Bureau of Information Management

  Don Petsche – Network Administrator, Bureau of Information Management

  David Booth - WIC Programmer, Bureau of Information Management

  Brenda Dobson – Nutrition Services Coordinator, Bureau of Nutrition and WIC

  Don Gourley – WIC Vendor Coordinator, Bureau of Nutrition and WIC

  Bruce Brown - Fiscal Planner, Bureau of Nutrition and WIC

  Cheryl VonBehren, WIC Coordinator, Broadlawns Medical Center

  Primary Contractor, (non-voting member)

  Quality Assurance Contractor (non-voting member)

0.1.4.2. North Dakota

The North Dakota steering committee will consist of the following members:

Vacant - Chief State Health Officer

Robert A. Barnett – Administrative Services Chief

Alana Knudson-Buresh- Office of Health Data

Karen Oby - MCH Nutrition Services Director

Jill Leppert - MCH/WIC Nutrition Services Coordinator

Colleen Pearce - WIC Director

Debra Anderson - Local Health Coordinator

Dave Mayer - MIS Coordinator

Darleen Bartz - Chief of Preventive Health

Sandra Anseth - Director of Maternal and Child Health

Corey Bergrud - Data Coordinator

Shannon Spotts – Burleigh County WIC Director

Kim Vance - Cass County WIC Director

Beth Viland - City County WIC Director

Sheri Hatton - Lake Region District WIC Director

Bertie Bishop - WGA Health Passport Project Manager

Primary Contractor (non-voting member)

Quality Assurance Contractor (non-voting member)

0.1.5. Plans to Transfer an Existing System

The states understand the potential cost efficiencies in transferring an existing system compared to development of a new system. It the states choose the option to implement a conventional, distributed system, it will be through the transfer of an existing system. In this case, the states have not pre-selected a particular system. Any potential contractor may bid to transfer any existing system that meets the states' functional requirements.

If the states choose to implement a Web-enabled system, given that there does not appear to be an appropriate transfer candidate, the States anticipate a higher level of development. The approach will be to use much of the functionality of an existing system for the function design of the new system, but to program as much of the system "from scratch" as needed. The states anticipate a somewhat higher development cost for this approach, which will be offset over the system's life through lower operating costs.

0.1.6. Development and Implementation Schedule

Given that there is no currently existing Web-enabled state WIC system, it is anticipated that the development period for that option will be longer than the corresponding period for a distributed client/server system. Thus, two project schedules have been developed, one for each alternative.

Iowa and North Dakota fully expect to meet the schedule for whichever alternative is selected for the project.

0.1.6.1. Distributed System

The following table lists the major milestones and their expected completion dates for the distributed client/server option. The starting date is based on federal approval of the IAPD and RFP, and on receipt of federal funding for the project. The remaining dates will be adjusted accordingly if the initial date is delayed.

Milestone	**Completion Date**
1. Release RFP	1 Oct. 2002
2. Contract Award	31 Jan. 2003
3. Project Initiation	15 Feb. 2003
4. Detailed System Design	15 Nov. 2003
5. Development and Testing	15 Sep. 2004
6. User Acceptance Test	30 Nov. 2004
7. System Pilot	31 Jan. 2005
8. System Rollout – Iowa	31 May 2005
9. System Rollout – North Dakota	30 Sep. 2005

0.1.6.2. Web-Enabled

The following table lists the major milestones and their expected completion dates for the Web-enabled option.

Milestone	**Completion Date**
5. Release RFP	1 Oct. 2002
6. Contract Award	31 Jan. 2003

7. Project Initiation	15 Feb. 2003
8. Detailed System Design	15 Nov. 2003
5. Development and Testing	15 Feb. 2005
6. User Acceptance Test	30 Apr. 2005
7. System Pilot	31 July 05
8. System Rollout – Iowa	30 Nov. 2005
9. System Rollout – North Dakota	31 Mar. 2006

0.1.7. Iowa and North Dakota Organizational Impacts

The effort involved in a WIC system modernization project always involves a heavy time commitment on the part of state WIC staff, particularly during the design, User Acceptance Test (UAT) and implementation phases of the project. It is expected that other new initiatives undertaken by the two states will be substantially curtailed during this time.

Although Iowa WIC staff will provide the majority of support for the project, the small size of the North Dakota state WIC staff (currently two full time positions plus one recently approved new position) will mean that their effort during the project, while smaller than that of Iowa, will still be very substantial, relatively speaking.

The states plan to employ the services of a firm to assist in procurement of the System Development and Implementation (SD&I) Contractor and to perform QA tasks, which will lighten their burden considerably (but by no means eliminate it). North Dakota also plans to use the newly approved position as a half time project manager to oversee North Dakota's interest during this effort. (The remaining portion of the new position's time will be as the WIC vendor manager.)

Once the system is in production, there are two major areas of organizational impact to the two states – policies and procedures, and system operation.

Policies and Procedures

Although it is customary during the design phase of a new WIC system to adapt the design of the system being transferred to the business practices of the state WIC program, it is inevitable that some changes in policy and procedure will be required to accommodate the new system. At the minimum, procedures for using the new system will be different from those relative to the preexisting one, and there will be new policies and procedures regarding system security, end of day (EOD), *etc.* There may be additional policy and procedure changes as well. In the course of planning this joint project to date, the two states have spent considerable time comparing business practices

and required system functionality to insure that a joint project is feasible. As a result, the state probably have a better than average sense of the impact of the new system on existing business practices.

System Operation

Both states plan to operate the new system themselves, which will obviously have an impact on the respective IT organizations that will take on this task (the Iowa Department of Public Health Bureau of Information Management and the North Dakota Information Technology Division, a separate state agency). Both organizations will have to understand the operating requirements of the new system, ensure that staffing is adequate, establish and staff a help desk, *etc.* The impact will be different in the Web-enabled system than in the distributed system because of the complexity of the requisite "server farm" and the fact that the whole system will exists at and be administered from the central location. While this will place additional responsibility on the state office, it is anticipated that it would reduce the burden on the local agencies.

0.2. PROGRAM ISSUES

0.2.1. Commitment to Ensure the System Implements Program Policy Correctly

Both states' steering committees, which will have ultimate authority for project decisions, include their respective state WIC directors. Both individuals have a strong commitment to ensuring that the new system accurately reflects WIC policy in their states, or, alternatively, that any policy changes required by the new system will be carefully evaluated with regard to the state and local WIC organizations, state and Federal regulations, the WIC Program mission, possible impact on WIC participants, and current WIC policy. In addition, appropriate Iowa state and local WIC staff (and north Dakota staff to the extent possible) will participate in the joint application design (JAD) sessions, in which the detailed design of the new system will be determined. The full North Dakota steering committee, project director, and any other appropriate state and local staff will review and approve all design decisions resulting from these sessions. Furthermore, state and local Iowa WIC staff will participate in the UAT, which will be among other things, a final look at the system prior to system pilot and production.

0.2.2. Commitment to Meet All Requirements

The requirements and design of the new WIC system are derived from and fully responsive to the WIC Participant Characteristics Minimum Data Set and the WIC Model Functional Requirements Document. The new WIC system will be a modern, state-of-the-art WIC system meeting or exceeding all state and Federal requirements.

0.2.3. Commitment to Ensure the Systems Procedures Program Reports

The design and requirements of the new WIC system are reflective of all current and anticipated USDA reporting requirements.

0.3. FINANCIAL ISSUES

0.3.1. Cost Allocation Plan

The new WIC system will be a WIC-dedicated system. Therefore, all development, implementation, operation, and maintenance costs will be born by Federal WIC monies. Each state will have specific implementation costs, such as purchase of new hardware and software licenses. The two states will individually request federal assistance with these costs as necessary. The two states propose that for administrative convenience, the RFP's and resulting contracts for the system developer and QA contractor be issued by Iowa, and that funding for these contracts be provided to Iowa. However, all documents will clearly state that North Dakota has approval authority on all deliverables.

0.3.2. Schedule of Development Costs

Since the system will be WIC dedicated, Federal financial participation (FFP) will represent 100 percent of all costs. The following tables summarize all development costs. For additional information regarding development costs, including the cost allocation between Iowa and North Dakota, please refer to Chapter VII, Project Budget.

0.3.2.1. Distributed System Development Costs

ITEM	Cost
Local Agency Equipment	
Local Agency Software Licenses	
State Level Hardware and Software	
Software Development and Other Cost Elements	
Total	

0.3.2.2. Web-Enabled Development Costs

ITEM	Cost
Local Agency Equipment	
Local Agency Software Licenses	

ITEM	Cost
State Level Hardware and Software	
Software Development and Other Cost Elements	
Total	

0.3.3. Schedule of Operations Costs

The following tables illustrate the estimated cumulative total outlays for development and operations for the next ten fiscal years for both the distributed client/server and the Web-enabled alternatives, assuming that system is operated in house in both states. Outlays for the first three years include both costs of operating the current system and development costs for the new system.

Distributed System Project Costs

Period	Annual Cost	Cumulative Cost
FY One ('03)		
FY Two		
FY Three		
FY Four		
FY Five		
FY Six		
FY Seven		
FY Eight		
FY Nine		
FY Ten		

Web-Enabled System Project Costs

Period	Annual Cost	Cumulative Cost
FY One ('03)		
FY Two		
FY Three		
FY Four		
FY Five		
FY Six		
FY Seven		
FY Eight		
FY Nine		
FY Ten		

0.3.4. Waiver of Depreciation

No Waiver of Depreciation is requested.

0.3.5. Amount of Equipment to be Provided to Each Worker

In the permanent clinics, regardless of system architecture, each worker is allocated one desktop PC workstation. In the distributed alternative, a LAN server is also required at each permanent site. In the satellite clinics, each worker will have access to a laptop at their workstation, plus there will be one (distributed client/server) or two (Web-enabled) laptop server(s). Existing equipment in both permanent and satellite sites was considered in the analysis (and subtracted from the total required). Also, the ability of satellite clinics from the same local agency to use the same equipment if they are open on different days of the month was factored into the calculations.

0.3.6. Results of the Cost-Benefit Analysis

Break-even analysis is used in business and government planning of all types, including systems analysis. This method compares the cost of using the current system with that of using the new one. The break-even point is the time at which the cost of the new system equals the cost of the current one. During the period just after the break-even point, the

new system typically shows greater benefits than the old one. The period before the break-even point is reached is called the investment period, while the time after is called the return period.

There are substantial limitations in applying this approach to public sector applications such as WIC system alternatives. To begin with, the baseline for comparison in each state is maintaining the existing system. However, both states have determined that this is an unacceptable choice. One of the alternatives needs to be implemented, even if it does not show a financial breakeven point during the ten year analysis period.

The results of the Cost-Benefit Analysis show a loss of _____over a 10 year period compared to current operations in the case of the distributed model, and $_____over the same period in the case of the Web-enabled model. (These are the combined totals for both states. Details on the impact for each state are found in chapter eight, the cost benefit analysis.)

0.4. TECHNICAL/PROCUREMENT/SECURITY

0.4.1. Analysis to Determine the Existence of Transferable Systems

The two states, in conjunction with their planning contractor, Burger, Carroll, & Associates (BCA), have conducted an extensive study of other state WIC systems that could serve as transfer candidates. The states of Hawaii, Washington, New Jersey, and New York all have completed or are in the process of completing development and installation of new WIC systems which could be transferred to the states of Iowa and North Dakota. In addition, Arizona, Puerto Rico, and Indiana are in the process of installing transfers of the Hawaii, Washington, and New Jersey systems, respectively. New Mexico has also recently put a new WIC system into production; however, the contractor that developed it, Wang Federal Systems, has left the WIC market.

All of the above mentioned systems are built on the distributed client/server model. If that approach is chosen for the new WIC system, the winning bidder for the development contract will almost certainly be bidding to transfer one of these systems. If, on the other hand, Iowa and North Dakota choose to build the new system as Web-enabled, an existing system will in all likelihood be used only as a basis for the functional design. It will probably be more cost efficient for a developer to write a new software application for the system than to make the quite extensive changes that would be required to "Web-enable" an existing system. Pennsylvania WIC, with the assistance of a contractor, is in the process of migrating their existing mainframe based system to a Web-enabled model. While it is too early in that project to determine whether their system could be considered a transfer candidate for a Web-enabled system, it is possible that another contractor will be available to bid on this system, increasing competition in the small WIC market.

0.4.2. Description of the Projected System Architecture

0.4.2.1. Distributed Client/Server System

In the distributed client/server architecture, each clinic database resides on a local area network (LAN) server in the clinic, so that the local system is entirely contained within the clinic, running on its LAN. In the case of the satellite clinics, the system will run on laptops in the same configuration. However, the records pertaining to the participants in that clinic are kept on the LAN server in the satellite's parent clinic. Before the satellite clinic is scheduled to meet, the relevant records are downloaded from the parent clinic LAN server to the satellite LAN server. After the satellite clinic day has finished, the modified records are uploaded back to the parent clinic database.

At the end of each clinic day, a telecommunications connection (usually dial-up) is established between each permanent clinic and the state level central processor. Over this connection, updated records are uploaded from the clinic to the central processor and dual participation candidates, in-state transfers, and other data such as new food packages are downloaded. In this environment, the WIC participant and issue databases reside simultaneously in two places – the clinics and the central site processor.

Some advantages to the distributed client/server architecture are that clinic functioning is not dependent on telecommunications access or bandwidth, the central site processor application is relatively simple (compared to the Web-enabled alternative), and there are a number of WIC systems already in operation that utilize this architecture. Thus, it has been demonstrated that this architecture is viable for a WIC system, and there exist candidates for a system transfer.

Disadvantages include that technically competent people need to be on staff at the clinics to administer the system and the LAN, that the data is duplicated in different locations, making it difficult or impossible to keep synchronized, and that software updates need to be accomplished simultaneously in all the clinics.

0.4.2.2. Web-Enabled

In this alternative, the system, including its associated data, resides in one place only (on the central processor) and is accessed *via* a state Web site. At the clinic, each system user goes to the Web site and links to the WIC application. Thus, all that is required in the clinic workstation is an operating system and a Web browser (*e.g.,* MS Internet Explorer or Netscape Navigator). There is no clinic LAN required to run the application.

The central site processor in this scenario becomes a complex of servers that includes a Web server, an application server, and a database server. The Web server manages communications and making the Web site available. The application server runs the application itself (for multiple users simultaneously), and the database server houses the database and manages all access to it (from the application server). In addition, because a failure of the central processor would bring the entire state's WIC service delivery to a halt, there needs to be redundancy of all system components plus software to manage it

so that failure of any single component does not bring down the whole system. Finally, there needs to be "load balancing" capability so that system requests are allocated among the multiple servers and processors in such a way that response times do not degrade unnecessarily.

Crucial to the success of a Web-enabled WIC system at any given site is the availability of a high speed Internet connection (DSL or better) to that site, in order to provide for adequate system response time. If the system were installed at this moment in time, that condition could not be satisfied for all sites, particularly the satellite clinics. Thus, a contingency plan was developed that includes three configurations or "Levels" and provides a migration process for each clinic from one level to the next. These are as follows:

Level 1 clinics have access to an Internet provider with a high bandwidth connection. This is the preferred configuration and the one that all clinics will eventually migrate to. These clinics will be directly connected to the CSP server containing both the central database and the application logic. All data will be stored only on the CSP. All permanent clinics and at least some of the satelite clinics will be level 1 at the time of system implementation.

Level 2 clinics have access to an Internet provider through a standard telephone servcie and dial up connection. Each clinic will essentially operate as a self contained intranet, running the same application as found on the CSP. As participants come into the clinic, their entire record will be downloaded from the CSP to the server in the clinic. When the participant is finished, the record will be uploaded to the CSP. No data will be stored permanently on the local servers. It is hoped that all remaining satelite clinics will be at level two at implementation.

Level 3 clinics do not have any access to an Internet provider. For any of these small, rural clinics that remain, a subset of the database containing only the records for that clinic will be downloaded prior to the clinic day. As in the level 2 clinics, the application will run on an intranet in the clinic. At the end of the clinic day, the complete set of records will be uploaded to the CSP.

It is anticipated that over time, as communications to rural areas of Iowa and North Dakota continue to improve, level 2 and level 3 sites will migrate to level 1. Each clinic will be able to migrate to the next level as conditions allow in that individual site.

Advantages to the Web-enabled alternative include that there is no need for application software or a LAN in the clinics, that there is only one copy of the database in the system, that the system can be centrally controlled and administered, that software updates are made in only one place, and that this architecture is in accord with state IT standards, particularly in Iowa.

Disadvantages include the need for high speed Internet access and the dependence of the system on the telecommunications infrastructure being up and running, and that there is at present no extant WIC system built on this architecture. The latter has two

ramifications – one, that there is thus no candidate for a system transfer, and two, that there is no guarantee that a viable Web-enabled WIC system can be built. Given that there have been many complex Web-enabled systems that *have* been built, the crucial issue here is telecommunications bandwidth. A WIC system is unlike most current Web-enabled systems in that it is a transaction oriented system containing literally hundreds of screens that must be running at the workstation eight hours a day, five or six days a week. It is simply unknown at this point whether even a DSL line will yield satisfactory response times in a clinic with four to ten workstations running the system simultaneously. For this reason, an extra task, a Web-Enabled Proof of Concept, has been added to the schedule for the Web-enabled alternative.

0.4.3. Summary of the Procurement Process

The services of a software development contractor with WIC experience will be obtained via a joint competitive procurement. Iowa, as the lead state, will be responsible for issuing the RFP. The two states will enter into either a three way contract with the developer or individual contracts. As required by the FNS 901 Handbook, Iowa and North Dakota will not pre-select a transfer candidate in order to ensure maximum and open competition. The final WIC application will become public domain.

Hardware and commercial software will be acquired *via* negotiation with approved state vendors after final hardware requirements for the new system are determined by the states in consultation with the SD&I contractor. Iowa currently purchases as much of its' hardware as possible through the Western States' Contracting Alliance (WSCA). The SD&I contractors' bids' will not cover installation of hardware. Both states currently install their own hardware at local agencies and clinics, and intend to continue that practice.

0.4.4. Approach to Ongoing Operations

Once the new WIC system is implemented, both states plan to operate it (and manage the operation of it) in-house. The organizations responsible for this task will be the Iowa Department of Public Health Bureau of Information Management and the North Dakota Information Technology Division. As both these organizations currently operate a number of complex systems, including several Web-enabled systems in each state, there is no question that the expertise to operate the new WIC system already exists, assuming that adequate training in the operation of the new system is provided by the SD&I contractor. It will be one of the RFP requirements that such training be supplied.

It may be necessary to hire additional staff to operate the system in each state, depending on a number of factors, including which architectural alternative is chosen. While estimates have been made for budget and planning purposes, final decisions will be made close to the time that the system is scheduled to become operational.

0.4.5. Technical Issues

If the architecture of the new WIC system is distributed, it will be based on the transfer of an existing system, and thus no capacity or response time constraints are anticipated. Backup and recovery procedures are universal in modern WIC systems and are planned for inclusion in the new system.

If, on the other hand, the Web-enabled architecture is chosen, then as has been pointed out above, response time is an issue that needs to be addressed. Because there is no extant Web-enabled WIC system, and because of the complexity of such a system, it is unknown just what telecommunications bandwidth is required to guarantee adequate response. Hence, in this case, there is an additional task in the workplan, Web-Enabled Proof of Concept, designed to determine the answer to this important question. It is located early enough in the schedule to enable the project to revert to the distributed client/server architecture if it is determined that the available telecommunications infrastructure is inadequate.

0.4.6. Case Conversion

The initial automated source for all participant data in the two states will be their respective current data processing systems. It will be one of the SD&I contractor tasks to create and execute a plan to convert this data into the format required by the new system. This will include such activities as assessing the quality of the data, mapping fields from the old system to the new, creating and testing software to perform the conversion, creating a schedule of conversion activities, and determining what manual processes will be required, including how to populate fields that are required in the new system but absent in the old and what data clean up tasks can profitably be undertaken prior to conversion.

The conversion routines and converted data will be tested during the UAT. Subsequently, each clinic's data will be converted immediately prior to the installation of the new system at that site, beginning with the system pilot.

0.4.7. Security Requirements

Included in this IAPD are security standards and requirements for the new WIC system that meet, and in some cases exceed, FNS security requirements. In particular, since a Web-enabled approach to WIC systems is a new concept, the states have more fully addressed the security requirements in this environment than is typical for an IAPD.

0.4.8. Procurement Support and Quality Assurance

Iowa and North Dakota WIC will procure the services of an experienced QA contractor to assist with procurement of the SD&I Contractor and for the duration of this project. The states believe the assistance of a QA contractor is particularly important if a Web-enabled approach is used, as there will be additional issues and questions that must be addressed.